

REMARKS/ARGUMENTS

Claims 6-11 were pending in the present application. The present response amends claim 6, leaving pending in the application claims 6-11. Reconsideration of the rejected claims is respectfully requested.

I. Rejection under 35 U.S.C. §112

Claims 6-11 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 has been amended for purposes of clarity. Claim 6 as amended recites a mode-locking laser system, and contains structural connections and essential elements thereof. As such, claim 6 should now be sufficiently definite. Claims 7-11 depend from claim 6 and also should be sufficiently definite. Applicants therefore respectfully request that the rejection with respect to claims 6-11 be withdrawn.

II. Rejection under 35 U.S.C. §103

Claims 6, 7, and 10 are rejected under 35 U.S.C. §103(a) as being obvious over *Hepburn* (US 3,789,320). *Hepburn* teaches a gas circulation system for gas lasers such as “lasers of the high-power carbon-dioxide type” that were used at around the time of the filing of the application in 1972 (col. 1, lines 1-4). *Hepburn* utilized an “oil mist filter (16A) and a silica-gel trap (16B) to remove any water vapor or contamination due to the pump itself” (col. 1, lines 44-52). The laser can use a second “silica-gel trap (16B) if required” (col. 2, lines 52-64). “The oil-mist filter is necessary only if the pump is of a type which may introduce oil contamination” (col. 2, lines 9-10). Therefore, *Hepburn* only teaches the use of an oil mist filter and silica-gel trap to compensate for the use of an oil pump.

Hepburn does not teach or suggest a mode-locking laser system as required by claim 6, including a gas conditioning arrangement for use with an enclosure containing a solid state gain medium sufficient to allow mode-locking operation. Further, *Hepburn* does not teach a gas conditioning arrangement configured such that said extracted gas delivered by the pump passes, in sequence, through the desiccant medium, the organic vapor trapping medium, and the particulate filter. Such sequence provides proper filtering to allow for mode-locking of the laser system. As discussed at the top of page 9 of the specification,

It is emphasized here that **the sequence of vapor reduction and filtering is particularly important** in the method and apparatus of the present invention. **If water vapor reduction does not precede organic vapor reduction there could be a significant degradation in the efficiency of organic vapor reduction.** As there is a possibility that water vapor removal materials and organic vapor trapping materials can generate particulate matter **it is important that particulate matter filtering takes place following water vapor reduction and organic vapor reduction.**

Mode-locking cannot occur for various wavelengths and power output levels when the gaseous atmosphere is not sufficiently free of water vapor, organic vapor, and contaminants. An example of mode-locking dependence is attached hereto as Exhibit A, showing the region of a wavelength tuning curve for which mode-locking cannot be operable without proper contaminant removal. *Hepburn* does not teach such sequencing, as *Hepburn* filters oil particulates from the laser gas in a first filter. Further, *Hepburn* is related to filtering laser gas for a gas discharge laser. The invention defined by claim 6 does not filter the laser gas, but instead conditions the gaseous atmosphere present in an enclosure which contains a solid state gain medium allowing for mode-locked operation. There would be no motivation for altering the sequence of *Hepburn*, as *Hepburn* addresses the problem of oil particles due to the oil pump for a gas discharge laser, which can be adequately addressed by the *Hepburn* sequence. Further, *Hepburn* teaches away from using a particulate filter in other systems, as the filter is needed only when such a pump is used, as described above. Further still, *Hepburn* does not teach the use of different materials for water vapor and organic vapor removal, or that the ordering of such different materials is of any importance. There is no teaching or suggestion in *Hepburn* that such a sequence of filters could be used to provide for mode-locking of a laser system, and *Hepburn* in fact teaches away from the use of a filter sequence when an oil pump is not present. As such, *Hepburn* cannot render claim 6 obvious. Claims 7 and 10 depend from claim 6 and therefore also are not rendered obvious by *Hepburn*.

Claims 8, 9, and 11 are rejected under 35 U.S.C. §103(a) as being obvious over *Hepburn* in view of *Shah* (US 6,428,608). Claims 8, 9, and 11 depend from claim 6. As discussed above, claim 6 is not rendered obvious by *Hepburn*. *Shah* does not make up for the deficiencies in *Hepburn* with respect to claim 6. *Shah* is cited as teaching that the “organic trapping medium may be activated carbon or molecular sieve,” as well as teaching “fourth and fifth conduits and first and second valves...” (OA p. 6). Such teachings do not make up for the deficiencies in

Hepburn with respect to claim 6. *Shah* is related to a simple air quality control system for controlling the air quality in a building, and as such is non-analogous art (Abstract). Even if *Shah* were to be determined to be analogous art, *Shah* does not teach or suggest a mode-locking laser system, as required by claim 6, or a gas conditioning arrangement capable of providing for mode-locking operation. *Shah* also does not teach the sequencing necessary for mode-locking, as *Shah* filters particles from the air using the first filter (col. 4, lines 16-36). There is no teaching or suggestion that the building air quality control system could be used, or modified to be used, with a laser system to provide mode-locking operation. As such, *Shah* cannot render claim 6 obvious either alone or in combination with *Hepburn*. Claims 8, 9, and 11 depend from claim 6 and also are not rendered obvious. Applicants therefore respectfully request that the rejection with respect to claims 8, 9, and 11 be withdrawn.

III. Amendment to the Claims

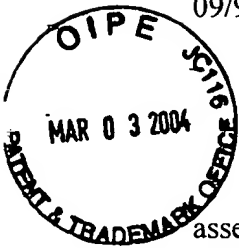
Unless otherwise specified, amendments to the claims are made for purposes of clarity, and are not intended to alter the scope of the claims or limit any equivalents thereof. The amendments are supported by the specification and do not add new matter to the specification.

IV. PTO-1449

On August 20, 2003, Applicants submitted a Supplemental Information Disclosure statement, a copy of which is attached hereto. Applicants have not yet received a copy of PTO-1449 indicating consideration of the submitted references. Applicants respectfully request a copy of the signed PTO-1449 showing consideration of the submitted references.

V. Conclusion

In view of the above, it is respectfully submitted that the application is now in condition for allowance. Reconsideration of the pending claims and a notice of allowance is respectfully requested.



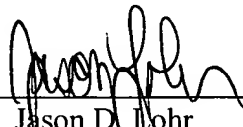
The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-1703, under Order No. COHL-4340. **A duplicate copy of the transmittal cover sheet attached to this Response to Office Action Mailed October 6, 2003, is provided herewith.**

Respectfully submitted,

STALLMAN & POLLOCK LLP

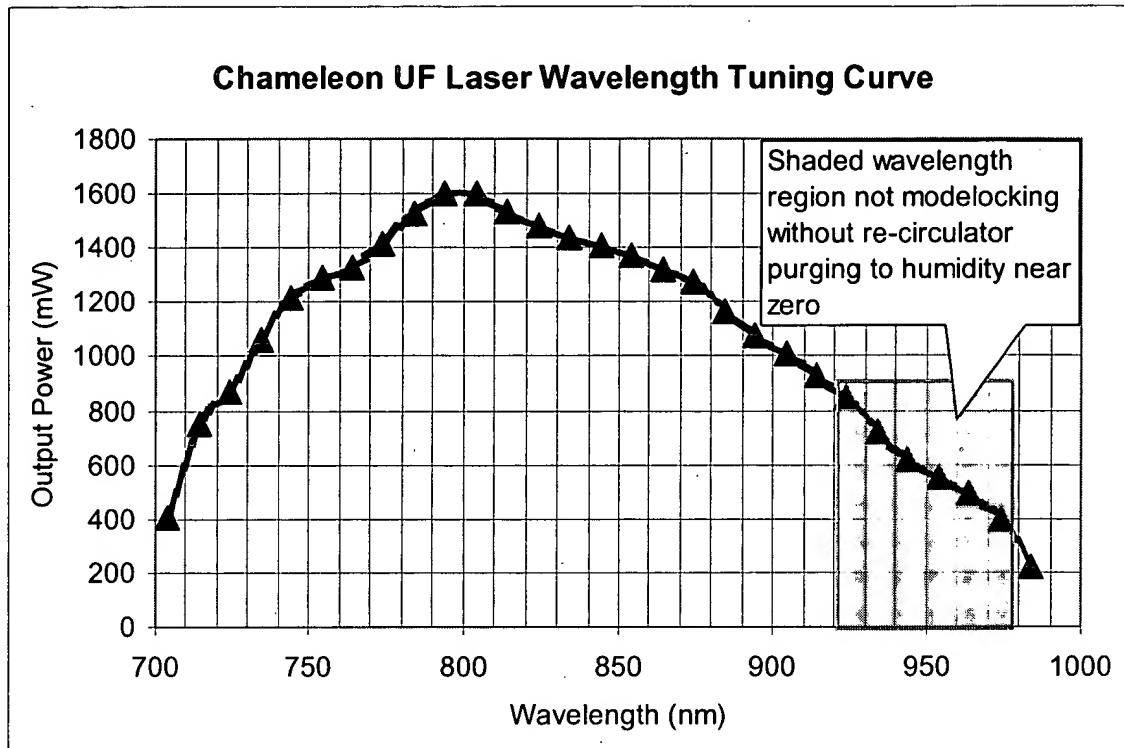
Dated: March 1, 2004

By: _____


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	Applicant(s) Yang Pang et al.	
	Filing Date July 9, 2001	Group Art Unit 2828

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	AA	3,393,032	07/16/1968	Crisler et al.	350	67	12/21/1964
	AB	4,229,709	10/21/1980	McMahan	331	94.5 T	06/12/1978
	AC	4,316,157	02/16/1982	Dosi et al.	372	59	08/13/1979
	AD	4,977,566	12/11/1990	Herbst et al.	372	33	02/02/1990
	AE	5,430,303	07/04/1995	Matsumoto et al.	250	492.2	10/05/1994
	AF	6,399,916	06/04/2002	Gortler et al.	219	121.84	08/10/1998

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AG	DE 39 38 592 A1	11/21/1989	Germany	B01D	53/34		X
	AH	DE 30 03 793 A1	02/02/1980	Germany	B01 J	23/68		X
	AI	WO 03/007436 A2	01/23/2003	PCT	H01S	3/02		

OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages, Etc.)

	AJ	In re PCT/US03/14939, Int'l filing date 05/13/2003, "Notification of Transmittal of the International Search Report or the Declaration," mailed 08/06/2003, 8 pages in length.

Examiner	Date Considered
Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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